

Human LRPAP1 / A2MRAP Protein (His Tag)

Catalog Number: 11100-H08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

A2MRAP; A2RAP; alpha-2-MRAP; HBP44; MRAP; MYP23; RAP

Protein Construction:

A DNA sequence encoding the human LRPAP1 (NP_002328.1) (Tyr 35-Leu 357) was expressed, fused with a signal peptide at the N-terminus and a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 92 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA . Immobilized human LRPAP1 at 0.5 µg/ml can bind human VLDLR with a range of 3.2-400 ng/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Tyr 35

Molecular Mass:

The secreted recombinant human LRPAP1 consists of 334 amino acids with the predicted molecular mass of 39.2 kDa. As a result of glycosylation, rh LRPAP1 migrates as an approximately 43 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

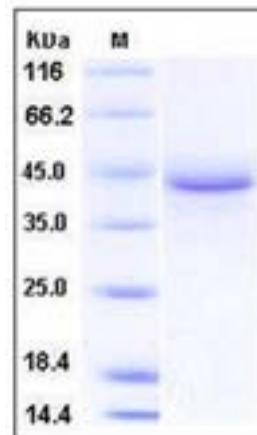
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Receptor-associated protein (RAP) is a molecular chaperone for low density lipoprotein receptor-related protein (LRP), which plays a key role in cholesterol metabolism. The lipoprotein receptor-related protein (LRP) is an endocytic receptor for several ligands, such as alpha2-macroglobulin (alpha2 M) and apolipoprotein E. LRP is involved in the clearance of lipids from the bloodstream and is expressed in the atherosclerotic plaque. The LRP-associated protein (LRPAP in humans, RAP in mice) acts as a chaperone protein, stabilizing the nascent LRP peptide in the endoplasmic reticulum and Golgi complex. Alpha-2-macroglobulin receptor-associated protein, also known as low density lipoprotein receptor-related protein-associated protein 1, RAP and LRPAP1, is a 39 kDa protein and a member of the alpha-2-MRAP family. It is a receptor antagonist that interacts with several members of the low density lipoprotein (LDL) receptor gene family. Upon binding to these receptors, LRPAP1 inhibits all ligand interactions with the receptors. LRPAP1 is present on cell surface forming a complex with the alpha-2-macroglobulin receptor heavy and light chains. It binds with LRP1B and the binding is followed by internalization and degradation. LRPAP1 interacts with LRP1/alpha-2-macroglobulin receptor and LRP2 (previously called glycoprotein 330), and may be involved in the pathogenesis of membrane glomerular nephritis. LRPAP1 together with LRP2 forms the Heymann nephritis antigenic complex. LRP2 is expressed in epithelial cells of the thyroid, where it can serve as a receptor for the protein thyroglobulin. Intron 5 insertion/deletion polymorphism of RAP gene (LRPAP1) has been implicated in other diseases sharing etiology with gallstone disease (GSD). The LRPAP1 insertion/deletion polymorphism influences cholesterol homeostasis and may confer risk for gallstone disease and gallbladder carcinoma (GBC) incidence usually parallels with the prevalence of cholelithiasis. The genetic variations at the LRPAP1 locus may modulate Alzheimer disease (AD) phenotype beyond risk for disease. In addition, the variation at the LRPAP1 gene could contribute to the risk of developing an early episode of myocardial infarction (MI).

References

1. Gonzalez P, *et al.* (2002) Variation in the lipoprotein receptor-related protein, alpha2-macroglobulin and lipoprotein receptor-associated protein genes in relation to plasma lipid levels and risk of early myocardial infarction. *Coron Artery Dis.* 13(5): 251-4.
2. Schutte DL, *et al.* (2003) A LRPAP1 intronic insertion/deletion polymorphism and phenotypic variability in Alzheimer disease. *Res Theory Nurs Pract.* 17(4): 301-19.
3. Pandey SN, *et al.* (2006) Lipoprotein receptor associated protein (LRPAP1) insertion/deletion polymorphism: association with gallbladder cancer susceptibility. *Int J Gastrointest Cancer.* 37(4): 124-8.

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